In the Claims

Claims 1 – 7 (Cancelled).

8. (New) A method for cleaning a stationary gas turbine unit during operation, wherein the unit comprises a turbine, a compressor driven by the turbine, the compressor having an inlet, an air inlet duct arranged upstream of the air inlet of the compressor, the inlet duct having a part of the duct adjoining the inlet of the compressor and having decreasing cross section in the flow direction in order to give the air flow a final velocity at the inlet to the compressor, the method comprising:

introducing a spray of cleaning fluid in the inlet duct wherein the cleaning fluid is forced through a spray nozzle under pressure so as to form a spray that will enter into the air flow, and with the spray being directed substantially parallel to and in the same direction as the direction of the air flow.

9. (New) A method of claim 8, wherein the drops of the spray have a mean size that is less than 150 μm.

10. (New) A method of claim 8, wherein the air velocity is at least 40 percent of the final velocity at the compressor inlet.

11. (New) A method of claim 8, wherein the drops of the fluid spray acquire a slip ratio of at least 0.8 at the compressor inlet.

12. (New) A method of claim 8, wherein the fluid spray is established by forcing the cleaning fluid through a nozzle with a pressure drop ranging anywhere from low to high pressure values.

13. (New) A method of claim 8, wherein the fluid spray is established by forcing the cleaning fluid through a nozzle with a pressure drop suitable so that the drops of the spray stay in the air flow, to avoid leaving a liquid film within the inlet duct.

14. (New) A method as claimed in claim 8, wherein the fluid spray is established so that a substantial proportion of its drops have a mean size within the interval 50-150 μm.

15. (New) A method as claimed in claim 14, wherein the fluid spray drops are given a mean size of around 70 μm.

16. (New) A method as claimed in claim 8, wherein the fluid spray drops are caused to acquire a slip ratio of at least 0.9 at the compressor inlet.

17. (New) A method for cleaning a stationary gas turbine unit during operation, wherein the unit comprises a turbine, a compressor driven by the turbine, the compressor having an inlet, an air inlet duct arranged upstream of the air inlet of the compressor, the inlet duct having a part of the duct adjoining the inlet of the compressor and having decreasing cross section in the flow direction defining a high-velocity area in order to give the air flow a final velocity at the inlet to the compressor, the method comprising:

introducing a spray of cleaning fluid in the high-velocity area of the inlet duct, wherein the cleaning fluid is forced through one or more spray nozzles and directed substantially parallel to and in the same direction as the direction of the air flow, and the spray being introduced at a position in the duct section where the air velocity is a percentage of the final velocity at the compressor inlet.

18. (New) A method of claim 17, wherein the fluid spray is established by forcing the cleaning fluid through the one or more spray nozzles with a pressure drop sufficient enough so that

the drops of the spray stay in the air flow instead of leaving a liquid film on the walls of the inlet duct.

19. (New) A method of claim 18, wherein the drops of the spray have a mean size that is less than 150 μm.

20. (New) A method of claim 18, wherein the air velocity is at least 40 percent of the final velocity at the compressor inlet.

21. (New) A method of claim 18, wherein the drops of the fluid spray acquire a slip ratio of at least 0.8 at the compressor inlet.

22. (New) A method of claim 18, wherein the one or more nozzles are operated under pressure to provide a spray with sufficient velocity to enter the air flow and penetrate the compressor to wet and clean the rotating and fixed sections of the compressor and avoid substantial contact with the inlet structural supports.

23. (New) A system for cleaning a stationary gas turbine unit during operation, wherein the unit comprises a turbine, a compressor driven by the turbine and having an inlet, an air inlet duct arranged upstream of the compressor, and the air inlet duct having a part of the duct adjoining the inlet of the compressor and having decreasing cross section in the flow direction in order to give the air flow a final velocity at the inlet to the compressor, the system comprising:

one or more nozzles positioned in the air inlet duct;

the one or more nozzles having cleaning fluid forced there through in order to form a spray of droplets; and

the one or more nozzles directing the spray of droplets in a direction substantially parallel to and in the same direction as the direction of the air flow.

24. (New) A system of claim 23, wherein the one or more nozzles are operated at a defined supply pressure to produce droplets with mean size of 50 to 150 μm.

25. (New) A system of claim 23, wherein the one or more nozzles are operated at a defined supply pressure to produce a spray at a velocity to allow injection into the compressor inlet air flow, wherein the spray enters the compressor inlet avoiding substantial contact with structural supports or boundaries of the inlet.

26. (New) A system of claim 23, wherein the one or more nozzles are operated at a defined supply pressure to provide a spray with sufficient velocity to enter the air flow and penetrate the compressor to wet and clean the rotating and fixed sections of the compressor.

27. (New) A system of claim 26, wherein the defined supply pressure in which the one or more nozzles are operated is in a range anywhere between low to high pressure values.

28. (New) A system of claim 23, wherein the air inlet duct comprises a bellmouth and inner cone structure.